```
     (FILE 'USPAT' ENTERED AT 08:57:25 ON 07 OCT 1999)
L1           415 S FROZEN (P) WHOLE BLOOD
L2            13 S FROZEN (N) WHOLE BLOOD
L3           371 S FROZEN AND WHOLE BLOOD AND IMMUNOASSAY
L4            54 S L3 AND FROZEN (P) WHOLE BLOOD
L5            11 S ANTICOAGULANT? AND L4
L6             3 S FROZEN WHOLE BLOOD AND TRANSFUSION
L7             5 S FROZEN (N) WHOLE BLOOD AND TRANSFUSION
L8           159 S WHOLE BLOOD AND TRANSFUSION AND IMMUNOASSAY
L9            44 S L8 AND FROZEN
L10            8 S FROZEN (P) WHOLE BLOOD AND TRANSFUSION AND IMMUNOASSAY

=> d cit l11 1-

'L11' NOT FOUND

=> d cit l10 1-
```

1. 5,847,101, Dec. 8, 1998, Non-A, non-B hepatitis virus genomic cDNA and antigen polypeptide; Hiroto Okayama, et al., 536/23.72; 435/5, 6; 536/23.1, 23.7, 24.3, 24.32 [IMAGE AVAILABLE]

2. 5,759,774, Jun. 2, 1998, Method of detecting circulating antibody types using dried or lyophilized cells; Roger W. Hackett, et al., 435/2, 7.21, 7.24, 7.25, 260 [IMAGE AVAILABLE]

3. 5,747,339, May 5, 1998, Non-A, non-B hepatitis virus genomic CDNA and antigen polypeptide; Hiroto Okayama, et al., 435/350; 424/184.1, 186.1, 189.1, 204.1, 228.1; 435/7.1, 69.1, 69.3; 530/350, 403; 930/223 [IMAGE AVAILABLE]

4. 5,643,716, Jul. 1, 1997, Diagnostic agent and methods for identifying HIV infected individuals and monitoring their therapy; Fred I. Chasalow, 435/5, 7.1, 974; 436/71 [IMAGE AVAILABLE]

5. 5,641,637, Jun. 24, 1997, Method of preparing lyophilized and frozen cell standards; Robert Hudak, et al., 435/7.24; 424/529, 534; 435/2, 260; 436/8, 10, 18, 176, 826 [IMAGE AVAILABLE]

6. 5,464,740, Nov. 7, 1995, Diagnositc agent and methods for identifying HIV infected individuals and monitoring their therapy; Fred I. Chasalow, 435/5, 7.1, 974; 436/71 [IMAGE AVAILABLE]

7. 5,426,029, Jun. 20, 1995, Therapeutic and diagnostic methods using leukocyte surface antigens; Charles W. Rittershaus, et al., 435/7.21, 7.24, 7.9, 7.94; 436/501,.506, 518, 536 [IMAGE AVAILABLE]

8. 5,221,616, Jun. 22, 1993, Prevention of spontaneous complement activation in mammalian biological fluids; William P. Kolb, et al., 435/18; 436/69 [IMAGE AVAILABLE]

```
=> d cit l5 1-
```

1. 5,804,392, Sep. 8, 1998, Diagnostic assays using soluble endothelial cell protein C/activated protein C receptor; Charles T. Esmon, et al., 435/7.1, 7.8, 975; 436/506; 530/387.1, 388.22, 389.1 [IMAGE AVAILABLE]

5,426,029

DETD(101)

Measurement . . . complex equipment and more steps. Thirdly, small quantities of sample, e.g., 100 .mu.l, and as little as 5 .mu.l of **whole blood**, can be directly analyzed in a simple **immunoassay** format without prior enrichment of the samples. This represents a significant cost reduction per sample analyzed, and the elimination of. . . analysis safer. Fifthly, the total marker assay does not require fresh samples. Each patient sample can be solubilized and stored **frozen**. This is especially useful for a series of samples obtained from the same patient over a period of time as in a longitudinal study. Each sample can quickly be solubilized and **frozen** so that all samples can be thawed and analyzed simultaneously. This is a definite improvement over flow cytometric analysis where. . .

2. 5,767,247, Jun. 16, 1998, Anti-annexin-V monoclonal antibodies, and preparation and use thereof; Noboru Kaneko, et al., 530/388.2; 435/7.1, 7.22, 7.92, 7.94, 332, 346 [IMAGE AVAILABLE]

3. 5,759,774, Jun. 2, 1998, Method of detecting circulating antibody types using dried or lyophilized cells; Roger W. Hackett, et al., 435/2, 7.21, 7.24, 7.25, 260 [IMAGE AVAILABLE]

4. 5,484,890, Jan. 16, 1996, Antihemophilic factor stabilization; Alan J. Johnson, et al., 530/383, 416 [IMAGE AVAILABLE]

5. 5,278,289, Jan. 11, 1994, Antihemophilic factor stabilization; Alan J. Johnson, et al., 530/383, 416 [IMAGE AVAILABLE]

6. 5,252,712, Oct. 12, 1993, Purified antibodies which specifically bind human abnormal prothrombin; Bruce E. Furie, et al., 530/389.3, 388.25 [IMAGE AVAILABLE]

7. 5,229,073, Jul. 20, 1993, One-step competitive **immunoassay** for the semiquantitative determination of plasma lipoprotein(a); Sheng-Chang Luo, et al., 422/56, 57, 58; 436/71, 514, 518, 548, 815, 825 [IMAGE AVAILABLE]

8. 5,221,628, Jun. 22, 1993, Binding of aggregated immunoglobulin or immune complexes by serum amyloid P component; Byron E. Anderson, et al., 436/507; 435/7.1, 7.8, 975; 436/501, 509, 518, 536, 538, 808 [IMAGE AVAILABLE]

9. 5,221,616, Jun. 22, 1993, Prevention of spontaneous complement activation in mammalian biological fluids; William P. Kolb, et al., 435/18; 436/69 [IMAGE AVAILABLE]

10. 4,769,320, Sep. 6, 1988, **Immunoassay** means and methods useful in human native prothrombin and human abnormal prothorombin determinations; Bruce E. Furie, et al., 435/7.92, 7.23, 7.4, 13, 810; 436/69, 536, 548, 808, 811, 815, 825; 530/381, 384, 388.25, 808 [IMAGE AVAILABLE]

11. 4,180,556, Dec. 25, 1979, Pretreatment method for carcinoembryonic antigen assay; Yung D. Kim, et al., 436/518, 531, 804, 813, 825 [IMAGE

Complement **and the damaging effects of cardiopulmonary bypass.**

Kirklin JK; Westaby S; Blackstone EH; Kirklin JW; **Chenoweth DE** ; Pacifico AD

J Thorac Cardiovasc Surg (UNITED STATES) Dec 1983, 86 (6) p845-57, ISSN 0022-5223 Journal Code: K9J

Contract/Grant No.: HL27440, HL, NHLBI

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8403

Subfile: AIM; INDEX MEDICUS

Postoperative cardiac, pulmonary, renal and coagulation dysfunction, along with C3a levels, were studied prospectively in 116 consecutive patients undergoing open cardiac operations and 12 patients undergoing closed operations in the same time period. The level of C3a 3 hours after open operation was high (median value 882 ng X ml-1 plasma) and was related to the C3a level before cardiopulmonary bypass (CPB) ($p = 0.03$), the level at the end of CPB (p less than 0.0001), elapsed time of CPB ($p = 0.07$), and older age at operation (p less than 0.0001). It was inversely related to the cardiac output as reflected by the strength of the pedal pulses ($p = 0.006$). In contrast, C3a levels did not rise in patients undergoing closed operations. The probability of postoperative cardiac dysfunction after open operations (present in 27 of 116 patients) was predicted by C3a levels 3 hours after operation ($p = 0.02$), the CPB time ($p = 0.02$), and younger age (p less than 0.0001). The same risk factors pertained for postoperative pulmonary dysfunction (present in 41 of the 116 patients); renal dysfunction (present in 24 of the 116 patients) except that CPB time was not a risk factor here; abnormal bleeding (present in 21 of the 116 patients); and important overall morbidity (present in 26 of 116 patients). As regards important overall morbidity, the C3a level effect became evident at about 1,900 ng X ml-1 (a level reached by 9% of patients); the effect of increasing time of CPB became evident at about 90 minutes of CPB time; and the effect of young age became evident as age decreased from 10 to 4 years. This study demonstrates the damaging effects of CPB, relates them in part to **complement** activation by the foreign surfaces encountered by the blood, and supports the hypothesis that the mechanisms of the damaging effects include a whole-body inflammatory reaction.

Tags: Human; Support, U.S. Gov't, P.H.S.

Descriptors: Cardiopulmonary Bypass--Adverse Effects--AE; ***Complement** 3 --Analysis--AN; Cardiac Surgical Procedures; Heart Defects, Congenital--**Surgery** --SU; Heart Diseases--Etiology--ET; Heart Diseases--Immunology --IM; Hemorrhage--Etiology--ET; Hemorrhage--Immunology--IM; Kidney Diseases--Etiology--ET; Kidney Diseases--Immunology--IM; Postoperative Complications; Prospective Studies; Respiratory Tract Diseases--Etiology --ET; Respiratory Tract Diseases--Immunology--IM

CAS Registry No.: 0 (Complement 3); 80295-42-7 (Complement 3a)

```
le 155:MEDLINE(R)  1966-1999/Dec W4
       (c) format only 1999 Dialog Corporation
*File 155: Medline updates are complete for 1999.
First update for 2000 will be added in mid-December.

      Set  Items  Description
      ---  -----  -----------
?ds

Set     Items   Description
S1        146   E12-E16
S2         76   S1 AND COMPLEMENT?
S3          1   S2 AND SURGERY?
?s s2 not s3
              76  S2
               1  S3
      S4       75  S2 NOT S3
?s s4 and (c3a or c4a or c5a)
              75  S4
            1185  C3A
             714  C4A
            2337  C5A
      S5       63  S4 AND (C3A OR C4A OR C5A)
?s s5/1997:1999
              63  S5
         1080724  PY=1997 : PY=1999
      S6        0  S5/1997:1999
?s s5 not s6
              63  S5
               0  S6
      S7       63  S5 NOT S6
?s s7 and assay?
              63  S7
          334281  ASSAY?
      S8        4  S7 AND ASSAY?
?s s7 and immunoassay?
              63  S7
           29801  IMMUNOASSAY?
      S9        1  S7 AND IMMUNOASSAY?
?s s7 and radioimmunoassay?
              63  S7
           75043  RADIOIMMUNOASSAY?
     S10        3  S7 AND RADIOIMMUNOASSAY?
?s s10 and ficol?
               3  S10
            3109  FICOL?
     S11        0  S10 AND FICOL?
?s s5 and ficol?
              63  S5
            3109  FICOL?
     S12        2  S5 AND FICOL?
?s s8-s12
               4  S8
               1  S9
               3  S10
               0  S11
               2  S12
     S13        9  S8-S12
?t s13/9/all

 13/9/1
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

06255114   87104148
 Anaphylatoxin formation in extracorporeal circuits.
  Chenoweth DE
```

Complement (SWITZERLAND) 1986, 3 (3) p152-65, ISSN 0253-5076
Journal Code: DOB
Contract/Grant No.: AI-18731, AI, NIAID; HL 27440, HL, NHLBI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8705
Subfile: INDEX MEDICUS

Anaphylatoxin **radioimmunoassay** techniques have been employed to define both the temporal profile and the amount of **complement** activation taking place in two different types of extracorporeal circuits. Prospective studies of patients undergoing both maintenance hemodialysis and cardiopulmonary bypass provided essentially similar findings. In both cases, plasma **C3a** antigen levels proved to be the most accurate and sensitive indicator of intravascular **complement** activation. By contrast, plasma **C5a** levels varied little during the period of extracorporeal circulation. Instead, this anaphylatoxin retained considerable biologic activity in vivo as evidenced by its ability to promote granulocyte activation and transient granulocytopenia which was displayed by patients in both groups. Plasma levels of **C4a** antigen were not elevated during the period of extracorporeal circulation, suggesting that alternative pathway mechanisms were predominantly responsible for the **complement** activation taking place in both hemodialyzers and bypass oxygenators. However, classical pathway activation events could be documented when protamine sulfate was administered to heparinized patients after cardiopulmonary bypass. In this instance, elevated plasma levels of both **C4a** and **C3a** antigens were observed. Prospective studies also suggested that **complement** activation could be associated with the development of both acute and delayed clinical sequelae. Available data support the hypothesis that **C5a** anaphylatoxin might be the primary mediator of these undesirable effects of extracorporeal circulation. These types of investigations have contributed significantly to our understanding of the role of the anaphylatoxins in human disease and may be directly applied to facilitate design of more biocompatible medical devices.

Tags: Human; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Descriptors: *Anaphylatoxins--Metabolism--ME; *Extracorporeal Circulation ; *Hemodialysis; *Peptides--Metabolism--ME; Cardiac Surgical Procedures; **Complement** Activation; **Complement** 3--Analysis--AN; **Complement** 4 --Analysis--AN; **Complement** 5--Analysis--AN; Leukopenia--Etiology--ET; Prospective Studies; **Radioimmunoassay**
CAS Registry No.: 0 (Anaphylatoxins); 0 (Complement 3); 0 (Complement 4); 0 (Complement 5); 0 (Peptides); 80295-42-7 (Complement 3a); 80295-49-4 (Complement 4a); 80295-54-1 (Complement 5a)

13/9/2
DIALOG(R)File 155:MEDLINE(R)

06118027 87299042
Analysis of density changes and chemotactic receptors of leukocytes from chronic hemodialysis and peritoneal dialysis patients.
Lewis SL; Van Epps DE; **Chenoweth DE**
Blood Purif (SWITZERLAND) 1987, 5 (2-3) p138-54, ISSN 0253-5068
Journal Code: AJ6
Contract/Grant No.: CA20819, CA, NCI; NU05459, NU, BHP
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8712
Subfile: INDEX MEDICUS

Analysis of standard **Ficoll** -Hypaque (density = 1.077 g/ml) separation profiles of peripheral white blood cells (WBC) from patients undergoing hemodialysis (HD) demonstrated that dialysis caused a marked decrease in the density of polymorphonuclear leukocytes (PMN) resulting in about 50% of these cells separating with the mononuclear cells. In vitro exposure of normal control peripheral blood to HD membranes as well as to the purified chemotactic factors **C5a** , C5ades-Arg, and formyl-Met-Leu-Phe (fMLP) also resulted in PMN density changes which altered the **Ficoll** -Hypaque

separation profiles of WBC. Therefore, these results imply that **C5a** generation, resulting from **complement** activation by the HD membrane, induced the density changes in the PMN from HD patients. Further studies using flow cytometry and fluorescein-labeled chemotactic factors (**C5a** , formyl-Met-Leu-Phe-Lys [fMLPL] and casein) indicated that HD patients had a significant reduction in the ability of their PMN and monocytes to bind **C5a** . This contrasted with the findings of no significant difference in the percentage or fluorescence intensity of HD patients' PMN or monocytes binding casein or fMLPL. Functional studies to analyze chemotactic-factor-mediated responses indicated that there was a decreased ability of HD patients' PMN and monocytes to generate superoxide anion, produce H2O2 and release myeloperoxidase in response to both **C5a** and fMLP. Additional studies evaluated the binding of chemotactic factors to PMN and monocytes from normal blood following passage through a hemodialyzer and from patients undergoing HD. Analysis of receptor binding by control cells passed through the dialyzer showed that there was a progressive decrease in the percentage of **C5a** -receptor-positive PMN and monocytes but no change with casein or fMLPL. In contrast, peripheral PMN and monocytes from chronic renal failure patients on HD showed no difference in **C5a** , casein or fMLPL receptors during the course of HD as compared to the predialysis period. This appears to be attributable to a difference in the regulation of the **C5a** that is generated as a result of the dialysis-membrane-induced activation of the **complement** system. Although **C5a** has been shown to be continuously generated during the course of HD, these patients show no modulation of their **C5a** receptors during the course of HD or when their whole blood is exposed to dialysis membrane fibers. These findings suggest that there are mechanisms functioning in chronically dialyzed patients to protect them from the effects of excessive **C5a** generation during HD.(ABSTRACT TRUNCATED AT 400 WORDS)

Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Hemodialysis; *Leukocytes--Cytology--CY; *Peritoneal Dialysis; *Receptors, Immunologic--Physiology--PH; Cell Separation--Methods --MT; **Complement** Activation; **Complement** 5--Pharmacology--PD; Flow Cytometry; Leukocytes--Ultrastructure--UL; Lymphocytes--Cytology--CY; Lymphocytes--Physiology--PH; Monocytes--Cytology--CY; Monocytes--Physiology--PH; N-Formylmethionine Leucyl-Phenylalanine--Pharmacology--PD; Neutrophils--Cytology--CY; Neutrophils--Physiology--PH; Peroxidase --Metabolism--ME; Superoxides--Metabolism--ME

CAS Registry No.: 0 (chemotactic peptide receptor); 0 (Complement 5); 0 (Receptors, Immunologic); 11062-77-4 (Superoxides); 59880-97-6 (N-Formylmethionine Leucyl-Phenylalanine); 80295-54-1 (Complement 5a)

Enzyme No.: EC 1.11.1.7 (Peroxidase)

13/9/3

DIALOG(R)File 155:MEDLINE(R)

05868008 87278552

Characterization of murine monoclonal antibodies that recognize neutralizing epitopes on human C5a.

Larrick JW; Wang J; Fendly BM; **Chenoweth DE** ; Kunkel SL; Deinhart T

Infect Immun (UNITED STATES) Aug 1987, 55 (8) p1867-72, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8711

Subfile: INDEX MEDICUS

We generated a panel of 10 murine monoclonal antibodies (MAbs) that recognize human **complement** fragment **C5a** . These MAbs were characterized for their ability to immunoprecipitate 125I-labeled **C5a** , bind **C5a** in solid-phase enzyme **immunoassay** , and block 125I-labeled **C5a** binding to polymorphonuclear leukocytes. Four of these MAbs had affinity constants for **C5a** in the 1 X 10(9) to 3 X 10(9) M-1 range. These MAbs blocked **C5a** -induced neutrophil polarization and chemiluminescence. They blocked the ability of passively administered **C5a** to cause neutropenia in rabbits.

These anti- **C5a** neutralizing MAbs may have potential therapeutic use in states of **complement** activation.
Tags: Human
Descriptors: Antibodies, Monoclonal--Immunology--IM; * **Complement** 5 --Immunology--IM; Antibody Specificity; **Complement** Activation; Epitopes; Granulocytes--Physiology--PH; Luminescence; Neutralization Tests; Neutrophils--Physiology--PH
CAS Registry No.: 0 (Antibodies, Monoclonal); 0 (Complement 5); 0 (Epitopes); 80295-54-1 (Complement 5a)

13/9/4
DIALOG(R)File 155:MEDLINE(R)

05840834 85261462
Structure and function of human C5a **anaphylatoxin. Selective modification of tyrosine 23 alters biological activity but not antigenicity.**
Johnson RJ; **Chenoweth DE**
J Biol Chem (UNITED STATES) Aug 25 1985, 260 (18) p10339-45, ISSN 0021-9258 Journal Code: HIV
Contract/Grant No.: AI-18731, AI, NIAID
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8511
Subfile: INDEX MEDICUS
Reaction of either human **C5a** or its des-Arg74 derivative (des-Arg74- **C5a**) with tetranitromethane under nondenaturing conditions results in selective nitration of only 1 of the 2 tyrosine residues found in these glycopolypeptides. This reactive tyrosyl residue was identified as that found in position 23 of the sequence. Nitrotyrosyl23-**C5a** and -des-Arg74- **C5a** were separated from their respective unmodified precursors by cation-exchange fast protein liquid chromatography. These purified derivatives served as reagents for the subsequent preparation of both aminotyrosyl23- **C5a** and -des-Arg74-**C5a** as well as photoreactive analogs of **C5a** . **Radioimmunoassays** performed with **C5a** derivatives serving as competing ligands and a murine antihuman **C5a** monoclonal antibody employed as first antibody demonstrated that selective modification of tyrosine23 did not produce a detectible alteration in the antigenic properties of **C5a** . By contrast, either nitro- or aminotyrosyl23-**C5a** was approximately 3-fold less active than native **C5a** in both bioassays and competitive ligand-receptor binding **assays** . Additionally, photoreactive derivatives prepared by coupling either N-succinimidyl-6-(4'-azido-2'-nitrophenylamino) -hexanoate or p-nitrophenyl-2-diazo-3,3,3-trifluoropropionate to aminotyrosyl23- **C5a** at pH 5.0 failed to interact with the neutrophil **C5a** receptor. These observations suggest that the tyrosyl23 residue of **C5a** may participate importantly in the binding interactions of this chemotactic factor and its granulocyte receptor.
Tags: Human; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Descriptors: **Complement** 3--Isolation and Purification--IP; ***Complement** 5--Metabolism--ME; *Tyrosine; Affinity Labels; Antibodies, Monoclonal; Carboxypeptidases; Electrophoresis, Polyacrylamide Gel; Epitopes--Analysis --AN; Neutrophils--Physiology--PH; Peptide Fragments--Analysis--AN; Photolysis; **Radioimmunoassay** ; Receptors, **Complement** --Metabolism--ME; Tetranitromethane--Pharmacology--PD
CAS Registry No.: 0 (complement 5a receptor); 0 (Affinity Labels); 0 (Antibodies, Monoclonal); 0 (Complement 3); 0 (Complement 5); 0 (Epitopes); 0 (Peptide Fragments); 0 (Receptors, Complement); 509-14-8 (Tetranitromethane); 55520-40-6 (Tyrosine); 80295-42-7 (Complement 3a) ; 80295-54-1 (Complement 5a)
Enzyme No.: EC 3.4. (Carboxypeptidases); EC 3.4.17.1 (carboxypeptidase A)

13/9/5
DIALOG(R)File 155:MEDLINE(R)

05484281 89104788
Complement **activation produced by biomaterials.**
Chenoweth DE
Baxter Healthcare Corporation, Round Lake, IL 60073.
Artif Organs (UNITED STATES) Dec 1988, 12 (6) p508-10, ISSN 0160-564X Journal Code: 8ZK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8904
Subfile: INDEX MEDICUS
The **complement** -activating potential of biomaterials may be defined by appropriate application of **C3a** and **C5a** anaphylatoxin **radioimmunoassays** . Studies performed with hemodialysis membranes demonstrate that blood contact with these model biomaterials results in **complement** activation that may be ascribed to specific properties of the material surface. Further delineation of these chemical and physical properties may permit design of biocompatible materials.
Tags: Human
Descriptors: Anaphylatoxins--Analysis--AN; *Biocompatible Materials; *Blood; * **Complement** Activation; *Peptides--Analysis--AN; **Complement** 3 --Analysis--AN; **Complement** 5--Analysis--AN; **Radioimmunoassay** ; Surface Properties
CAS Registry No.: 0 (Anaphylatoxins); 0 (Biocompatible Materials); 0 (Complement 3); 0 (Complement 5); 0 (Peptides); 80295-42-7 (Complement 3a); 80295-54-1 (Complement 5a)

13/9/6
DIALOG(R)File 155:MEDLINE(R)

04903623 86183921
Density changes in leukocytes following hemodialysis or exposure to chemotactic factors.
Lewis SL; Van Epps DE; **Chenoweth DE**
Am J Nephrol (SWITZERLAND) 1986, 6 (1) p34-41, ISSN 0250-8095 Journal Code: 3MB
Contract/Grant No.: CA20819, CA, NCI; NU-05459, NU, BHP
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8607
Subfile: INDEX MEDICUS
Analysis of standard **Ficoll** -Hypaque separation profiles of peripheral WBC from patients undergoing hemodialysis (HD) demonstrated that dialysis caused a marked alteration in the number of cells found at both the interface between the **Ficoll** -Hypaque and plasma which normally contains mononuclear cells and the cell pellet which normally contains granulocytes. By 30 min into dialysis, there was a 175% increase in white blood cells in the mononuclear band with a corresponding decrease in the number of cells obtained from the cell pellet. When peripheral blood samples from normal donors were pumped through various types of hemodialyzers, a shift in the cell separation profiles similar to that of patients undergoing HD was observed. Differential analysis of the cells obtained from both the interface between the **Ficoll** -Hypaque and plasma and the cell pellet showed that by 30 min into dialysis, the 'mononuclear' band contained 40-50% polymorphonuclear neutrophils (PMN). To ascertain whether the cell separation changes were possibly due to **C5a** generation resulting from **complement** activation by the HD membrane, whole blood was incubated with the purified chemotactic factors **C5a** , C5ades arg, and formyl-methionyl-leucyl-phenylalanine. This resulted in similar alterations in PMN densities. This study demonstrates that both in vivo and in vitro exposure of human peripheral blood to HD membranes as well as the chemotactic factors **C5a** , C5ades arg, and formyl-methionyl-leucyl-phenylal anine results in density changes in PMN.(ABSTRACT TRUNCATED AT 250 WORDS)
Tags: Animal; Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S.

Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Descriptors: *Chemotactic Factors--Pharmacology--PD; *Hemodialysis; *Leukocyte Count; *Leukocytes--Classification--CL; Cell Separation; Centrifugation, Density Gradient; **Complement** 5--Analogs and Derivatives --AA; **Complement** 5--Pharmacology--PD; Eosinophils--Classification--CL; Kidney Failure, Chronic--Blood--BL; Kidney Failure, Chronic--Therapy--TH; Leukocyte Count--Drug Effects--DE; Lymphocytes--Classification--CL; Membranes, Artificial; Monocytes--Classification--CL; N-Formylmethionine Leucyl-Phenylalanine--Pharmacology--PD; Neutrophils; Rabbits; Time Factors
CAS Registry No.: 0 (Chemotactic Factors); 0 (Complement 5); 0 (Complement 5a, des-Arginine); 59880-97-6 (N-Formylmethionine Leucyl-Phenylalanine); 80295-54-1 (Complement 5a)

13/9/7
DIALOG(R)File 155:MEDLINE(R)

04834653 85159056
Chemotactic responses of human peripheral blood monocytes to the complement-derived peptides C5a **and** C5a **des Arg.**
Marder SR; **Chenoweth DE** ; Goldstein IM; Perez HD
J Immunol (UNITED STATES) May 1985, 134 (5) p3325-31, ISSN 0022-1767 Journal Code: IFB
Contract/Grant No.: AM-07304, AM, NIADDK; AM-28566, AM, NIADDK; HL-28475, HL, NHLBI; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8507
Subfile: AIM; INDEX MEDICUS
We examined responses of human peripheral blood polymorphonuclear leukocytes (PMN) and monocytes to the highly purified human **complement** -derived peptides **C5a** and **C5a** des Arg. As reported previously, **C5a** proved to be approximately 10- to 20-fold more potent than **C5a** des Arg as a chemoattractant for human PMN. **C5a** also was more potent than **C5a** des Arg in causing PMN to acquire a polarized morphology. In contrast, we found that human monocytes do not distinguish between **C5a** and **C5a** des Arg when these peptides are used as chemoattractants. In two different **assay** systems, both peptides acted at identical concentrations to stimulate suboptimal and optimal migration of monocytes. Human monocytes also did not distinguish between **C5a** and **C5a** des Arg when these peptides were used as inducers of polarization. Studies performed with functionally active, [125I]-labeled **C5a** and **C5a** des Arg, however, demonstrated that binding of **C5a** des Arg to monocytes differed from binding of **C5a** . Although [125I]-**C5a** des Arg appeared to bind to the same receptor as [125I]-**C5a** , binding of labeled **C5a** des Arg occurred with an affinity that was approximately 100-fold less than that observed with labeled **C5a** . These results indicate that leukocyte chemotactic and polarization responses to **C5a** and **C5a** des Arg vary, depending on the target cell type.
Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Descriptors: Chemotactic Factors--Physiology--PH; *Chemotactic Factors, Macrophage--Physiology--PH; *Chemotaxis, Leukocyte; * **Complement** 5 --Analogs and Derivatives--AA; * **Complement** 5--Physiology--PH; Adult; Binding Sites; Chemotactic Factors, Macrophage--Metabolism--ME; **Complement** Activation; **Complement** 5--Metabolism--ME; Immunologic Techniques; Monocytes--Metabolism--ME; Monocytes--Physiology--PH; Zymosan--Pharmacolog y--PD
CAS Registry No.: 0 (Chemotactic Factors); 0 (Chemotactic Factors, Macrophage); 0 (Complement 5); 0 (Complement 5a, des-Arginine); 80295-54-1 (Complement 5a); 9010-72-4 (Zymosan)

13/9/8
DIALOG(R)File 155:MEDLINE(R)

03863302 82267763
Induction of interleukin 1 secretion and enhancement of humoral immunity by binding of human C5a **to macrophage surface** C5a **receptors.**
Goodman MG; **Chenoweth DE** ; Weigle WO
J Exp Med (UNITED STATES) Sep 1 1982, 156 (3) p912-7, ISSN 0022-1007 Journal Code: I2V
Contract/Grant No.: AI07007, AI, NIAID; AI18731, AI, NIAID; AI15284, AI, NIAID; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8212
Subfile: INDEX MEDICUS
The mechanism by which human **C5a** anaphylatoxin augments the primary humoral response of murine splenocytes to antigen has been investigated. Culture supernatants were generated from splenic adherent cells or macrophage cell lines after exposure to a brief pulse of human **C5a** . Supernatants from the macrophage-like cell line P388D1, which bears surface receptors for **C5a** , enhance the PFC response to antigen, whereas those from the closely related cell line P388, which lacks surface receptors for **C5a** , fail to cause enhancement. Supernatants from splenic adherent cells, which also bear **C5a** receptors, similarly augment the SRBC response. Active supernatants, but not those devoid of activity, were shown to contain interleukin 1 (IL-1) activity by both the thymocyte mitogenesis and thymocyte costimulator **assays** . None of the supernatants contained IL-2 activity. These observations suggest that the recently described role of human **C5a** as an immunopotentiating modulator is mediated by its ability to induce production of IL-1 upon binding to specific receptors at the macrophage cell surface.
Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Descriptors: Antibody Formation; * **Complement** 5--Metabolism--ME; *Macrophages--Immunology--IM; *Proteins--Metabolism--ME; *Receptors, **Complement** --Metabolism--ME; Cell Line; Indomethacin--Pharmacology--PD; Interleukin-2--Analysis--AN; Lymphocyte Transformation; Macrophages --Metabolism--ME; Macrophages--Secretion--SE; Mice; Mice, Inbred Strains
CAS Registry No.: 0 (Complement 5); 0 (Interleukin-1); 0 (Receptors, Complement); 53-86-1 (Indomethacin); 80295-54-1 (Complement 5a)

13/9/9
DIALOG(R)File 155:MEDLINE(R)

03439661 81249835
Neutrophil dysfunction in sepsis. II. Evidence for the role of complement **activation products in cellular deactivation.**
Solomkin JS; Jenkins MK; Nelson RD; **Chenoweth D** ; Simmons RL
Surgery (UNITED STATES) Aug 1981, 90 (2) p319-27, ISSN 0039-6060 Journal Code: VC3
Contract/Grant No.: CA 23707, CA, NCI; AM13083-11, AM, NIADDK; FM 32A 05696; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8111
Subfile: AIM; INDEX MEDICUS
Abnormalities in chemotactic and bactericidal activity have been identified in patients suffering from burn injury, trauma, and infection. Such abnormalities may lead to bacteremia or nosocomial infection. The mechanism for these abnormalities is unclear. We studied the role of chemotactic deactivation by **complement** component **C5a** in 47 patients with intra-abdominal infection and with disordered neutrophil function. Plasma **C5a** levels in such patients were elevated (102.1 +/- 8.3 versus 52.6 +/- 3.4 ng/ml for control subjects, P less than 0.01). There was a linear relationship between **C5a** and chemotaxis (r = 0.56, P less than 0.01). Examination of patients' neutrophils showed changes consistent with nonspecific deactivation. There were parallel losses of chemotaxis to N-formyl methionyl-leucyl-phenylalanine (FMLP) and activated serum (**C5a**)

(r = 0.74, P less than 0.001), chemotaxis and intracellular beta-glucuronidase (r = 0.82, P less than 0.001), and **C5a** and FMLP chemotaxis and (r = 0.56, P less than 0.01). Receptor **assays** revealed specific loss of **C5a** binding but intact FMLP binding. Exposure of normal neutrophils to plasma from patients with depressed chemotaxis caused similar loss of **C5a** receptors and loss of FMLP and activated serum-induced chemotaxis at high plasma concentrations and selective loss of activated serum response at lower concentrations. These data support the concept that a major factor leading to neutrophil dysfunction during intra-abdominal infection is nonspecific chemotactic deactivation of neutrophils after in vivo exposure to high levels of chemoattractants such as **C5a** .

Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: Bacterial Infections--Blood--BL; *Chemotaxis, Leukocyte --Drug Effects--DE; * **Complement** 5--Physiology--PH; *Neutrophils --Physiology--PH; Adolescence; Adult; Aged; Bacterial Infections --Immunology--IM; **Complement** Activation; **Complement** 5--Analysis--AN; Middle Age; N-Formylmethionine--Analogs and Derivatives--AA; N-Formylmethionine--Pharmacology--PD; Oligopeptides--Pharmacology--PD

CAS Registry No.: 0 (Complement 5); 0 (Oligopeptides); 4289-98-9 (N-Formylmethionine); 59880-97-6 (N-Formylmethionine Leucyl-Phenylalanine)

?logoff hold

18nov99 11:37:24 User228206 Session D1057.3

$2.86 0.954 DialUnits File155

$1.80 9 Type(s) in Format 9

$1.80 9 Types

$4.66 Estimated cost File155

$0.15 TYMNET

$4.81 Estimated cost this search

$4.81 Estimated total session cost 0.954 DialUnits

Status: Signed Off. (3 minutes)